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CALFEE HALTER & GRISWOLD, LLP			TUROCY, DAVID P	
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DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/710,805

Applicant(s)

HAGOPIAN ET AL.

Examiner

David Turocy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/13</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/2006 has been entered.

Response to Amendment

2. Applicant's amendments, filed 6/13/2006, have been fully considered and reviewed by the examiner. The examiner notes the amendments to claims 1, 6, 40, 49, 51, 52, 53, 54, and 56 and the addition of new claims 57-65. Claims 1-18 and 20-65 are pending in the instant application.

Response to Arguments

3. The applicants amendments, filed 6/13/2006, that are direct to new limitations are deemed moot in view of the new grounds of rejection set forth below.

The applicant has argued the statement that in the field of wood and cabinet coating the phrase "three dimensional cabinet substrate" or "three dimensional wood substrate" defines a substrate that is not substantially flat. However, this must be deemed mere attorney speculation unsupported by factual evidence. The applicant has

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present an affidavit, dated 4/21/2006, to support such an assertion, however, the examiner notes that the phrase is disclosed as supporting "corners" and "recesses", see paragraph 3. The examiner maintains that a flat substrate, as taught by Nielson and Blazey, will inherently have a degree of recessions on the surface and have corners. The applicant is asked to claim dimensions or other features of the recesses or corners that will more distinctly define the phrase "three dimensional" as intended and argued by the applicant.

Claim Objections

4. Claim 57 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-18, 20-45, 49-50, 52-53, 56-60, 64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the

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time the application was filed, had possession of the claimed invention. The examiner cannot find support in the specification as originally filed for the entire range of moving the substrate at "less than 35 feet per minute".

If the applicant can provide support for such a limitation in the disclosure as originally filed, the examiner will withdraw the rejection.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1, 4-7, 12, 13, 32-35, 52, 53, 56-58, 64 are rejected under 35 U.S.C. 102(a) as being anticipated by Hasenour et al. (US Patent Application Publication No. 2003/0183166).

Referring to claim 1, Hasenour et al. discloses coating a three dimensional substrate using a coating material comprised of 100% solids material , applying the coating to a three-dimensional substrate to provide a uniform thin film coating of the coating material on the three-dimensional substrate (paragraph 11, paragraph 37). Hasenour discloses moving the substrate at speed of less than 35 feet per minute (paragraph 37). While the examiner notes the desired speed of the conveyor is actually

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50-300 fpm, the disclosure of Hasenour clearly discloses 35 fpm or less, while not desired, still operable.

Referring to claim 4, Hasenour et al. discloses the coating material can be UV curable (paragraph 6).

Referring to claims 5 and 6, Hasenour et al. discloses the substrate can be a wooden cabinet door (paragraphs 5 and 6).

Referring to claim 7, Hasenour et al. discloses spraying the coating using air assisted spray gun inherently atomizes the material (paragraph 34).

Referring to claim 12, Hasenour et al. discloses the 100% solids material is applied then cured using UV light (paragraph 5).

Referring to claim 13, Hasenour et al. discloses that the wet and dry coatings are the same thickness (paragraph 6).

Referring to claims 32, 33, 34 and 35, Hasenour et al. discloses the substrate is moved in and out of the spray chamber on a conveyor belt (paragraph 31). The spray chamber is located within an applicator (paragraph 16).

Referring to claim 52, Hasenour et al. discloses applying a solvent material that is substantially solvent-free to a three-dimensional substrate and forming a uniform thin film on the three-dimensional substrate (paragraphs 5, 6, 11).

Referring to claim 53, Hasenour et al. discloses applying a solvent material that is substantially solvent-free to a three-dimensional substrate and forming a uniform thin film on the three-dimensional substrate wherein the coating material is recyclable (paragraphs 5, 6, 11 and 35)

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Referring to claim 56, Hasenour et al. discloses applying a solvent material that is 25% or less solvent to a three-dimensional substrate and forming a uniform thin film on the three-dimensional substrate (paragraphs 5, 6, 11).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, 7-13, 18, 20-22, 28, 32-35, 39-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen (US Patent No. 5,989,638) in view of Hasenour et al. or visa versa.

Referring to claim 1, Nielsen discloses a method for coating a substrate, while it does not specifically disclose a three dimensional substrate, all substrates are inherently three dimensional (column 16 lines 57-63). The coating material is a high solids content material of 78.70 weight percent solids (column 25 lines 25-27). This can be interpreted to be a "substantially solvent free" material and thus would fit the definition on page 4 of the specification for a 100% solvent material. Therefore Nielsen discloses a method for applying a 100% solids material to a three-dimensional wood substrate forming a thin uniform film (Column 16, lines 56-65, column 17 lines 16-26).

Alternatively, the example given in the Nielsen is 1.30% less than the "twenty percent or less solvent", which is defined in the specification as 100% solids (page 4). However, the instant invention of Nielsen is not bound by this weight percent of 78.70 but rather "high solids content" materials. The value given is only an exemplification and it would have been obvious to one of ordinary skill in the art at the time the invention was made that the Nielsen invention can function at higher weight percentages including 80% solids and greater. This is desirable as the higher weight percentage of solids decreases the amount of solvent and air toxics that need to be evaporated off into the atmosphere (column 6, lines 38-50).

Nielson fails to disclose moving the substrate at 35 ft/min. However, it is the examiners position that the process parameter of moving speed of a substrate relative to the spray nozzle is a known result effective variable. If speed is too low it would result in coating too thick and too high a speed would result in too low a thickness. Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the speed used in the process of Nielson, through routine experimentation, to impart the wood with the desired coating thickness.

Nielson fails to disclose applying the coating formulation to a wood cabinet door. However, since Nielson discloses forming uniform thin films, on the micron scale onto wood substrate and Hasenour et al. discloses wood cabinet door benefit from such thin films, taking the references collectively, it would have been obvious to one of ordinary skill in the art, to have modified Nielson to apply the high solid content ratio coating

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material to the wood cabinet door with a reasonable expectation of provided the desired thin film coating.

Alternatively, Hasenour et al. applied here as applied above in the 35 USC 102(b) rejection, discloses applying a solvent and polymer material to a cabinet door is known in the art to provide thin coatings. While the examiner notes Hasenour et al. discloses a problem with a solvent is limited recovery and/or removing the solvent, such a disclosure is not a teaching away from such a system but rather a teaching of a preferred method. Hasenour et al. clearly discloses applying a diluted solvent/polymer system is known in the art to coat wood cabinet substrates on a conveyor. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hasenour et al. with the high content spray application as taught by Nielson, with a reasonable expectation of success, because Hasenour et al. discloses cabinet doors are known in the art to be coated with thin uniform coatings using a polymer solution and Nielson discloses using such a system provides a thin coating without entrapment bubbles.

Referring to claims 2 and 3, Nielsen discloses forming a thin film with a thickness of 0.2 mils (column 17 lines 16-26).

Referring to claim 4, Nielsen discloses the coating material is UV curable (column 17 lines 56-61).

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Referring to claim 5, Nielsen discloses the substrate can be comprised of wood (column 16 lines 57-63).

Referring to claim 7, Nielsen discloses a spray coating process, which acts to atomize the liquid coating material column 1 lines 52-65).

Referring to claim 8, Nielsen discloses the atomization stream is temperature controlled (column 19 lines 45-57).

Referring to claims 9 and 10, Nielsen discloses the stream is at 140 °F (column 19 lines 45-57).

Referring to claim 11, Nielsen discloses the average particle size is from 15-50 microns (column 17 lines 1-6)

Referring to claim 12, Nielsen discloses that the coating material forms a wet film and is cured to form a dry film (column 17 lines 16-26, lines 57-61).

Referring to claim 13, Nielsen discloses that the wet film and dry film are substantially equal in thickness (column 26 lines 60-65).

Referring to claim 18, Nielsen discloses a method using spray gun that produced droplets with a mean diameter of 25 microns (column 25 lines 49-61).

Referring to claims 20-22 Nielsen discloses adding heat to the coating material heating it to 140°F (column 19 lines 46-57).

Referring to claim 28, Nielsen discloses measuring the temperature of the discharge stream from a spray gun (column 25 lines 49-61).

Referring to claim 32, Nielsen discloses that the substrate is moving along a conveyor to enter and leave the application region (column 34, lines 5-35).

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Referring to claims 33, 34 and 35 Nielsen discloses that the substrate is coated in a chamber, a cabinet that contains an applicator, a reciprocating automatic spray gun (column 34 lines 5-35).

Referring to claim 39, Nielsen discloses controlling the particles size to between 15 and 50 microns and discloses controlling the pressure of the carbon dioxide used to flow the material (column 17 lines 1-6, column 19 lines 46-57). Controlling the pressure inherently controls the velocity of the particles. Thus controlling the particle size and the particle velocity inherently controls the particles momentum.

Referring to claim 40, Nielsen discloses a process for applying a 100% solids material atomizing the material and heating it to 140 °F as described above.

Referring to claim 41, the atomization is provided by spray guns (column 34 lines 5-35).

Referring to claim 42, Nielsen discloses the temperature of the atomized spray is known, therefor a temperature sensor must have been used to measure the temperature of the atomized coating material (column 25 lines 49-61).

Referring to claim 43, Nielsen discloses that the mixture is heated prior to spraying in order to maintain the spray temperature at the desired value (column 25 lines 49-61).

Referring to claim 44, all substrates are three-dimensional.

Referring to claim 46, Nielsen discloses a process for coating a three-dimensional substrate to form a uniform wet build drying the uniform wet build to form a

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uniform dry build (column 34 lines 5-35). As discussed above the film thickness can be less than 0.001 inches and can be substantially equal.

Referring to claim 47, Nielsen discloses the coating material can be 100% solids material as discussed above.

Referring to claim 49, Nielsen discloses a process for coating a three-dimensional substrate by atomizing a 100 % solids material using a spray gun and depositing the spray onto the substrate measuring the temperature of the spray and controlling it to 140 °F as discussed above. The temperature of the coating material is controlled in order to maintain the temperature of the spray at the desired temperature, while this is not stated it is inherently necessary to do so in order to control the temperature of the spray.

Referring to claim 51, 52, 54-56 all aspects of these claims have been shown above.

Referring to claim 53, Nielsen discloses a process for coating a three dimensional substrate by applying a coating material on the substrate that is less than 25% solvent in a uniform thin film (column 17 lines 16-26, column 25 lines 25-27). Any material sprayed onto the substrate has the ability of having the excess collected and reused thus all materials are recyclable. Furthermore, all chemical reactions are theoretically reversible so that any chemical reaction that occurs with the deposited material can theoretically be undone and the material can be reused.

Referring to claim 55, Nielsen discloses the films are substantially the same thickness when wet and when dry (column 26 lines 60-65).

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Referring to claim 56, Nielsen discloses a process for coating a material that is less than 25% solvent and applying that coating material to a three dimensional substrate to form a uniform thin film coating on the substrate as discussed above.

Claims 57-65: All the limitations of these claims have been addressed above.

11. Claims 1, 4, 5, 6, 53 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlegel et al. (US Patent No. 6,268,022).

Referring to claims 1 and 56 Schlegel et al. discloses a process for coating a three-dimensional substrate comprising supplying a coating material comprised of a powder coating (that is solvent free) applying the coating material to the substrate to provide a uniform thin film coating on the substrate (column 1 lines 3-9). Schlegel et al. discloses moving the substrate past a nozzle during coating (Column 3, lines 30-33), but fails to disclose the speed being less than 35 fpm.

However, it is the examiners position that the process parameter of moving speed of a substrate relative to the spray nozzle is a known result effective variable. If speed is too low it would result in coating too thick and too high a speed would result in too low a thickness. Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the speed used in the process of Schlegel, through routine experimentation, to impart the wood with the desired coating thickness.

Referring to claim 4, Schlegel et al. discloses that the coating can be UV curable (column 4 lines 64-67).

Referring to claims 5 and 6, Schlegel et al. discloses that the substrate can be a wooden cabinet component (column 3 lines 9-20, column 1 lines 3-9).

Referring to claim 53, Schlegel et al. discloses a process for coating a three dimensional substrate by applying a coating material on the substrate in a uniform thin film (column 1 lines 3-9). Any material sprayed onto the substrate has the ability of having the excess collected and reused thus all materials are recyclable. Furthermore, all chemical reactions are theoretically reversible so that any chemical reaction that occurs with the deposited material can theoretically be undone and the material can be reused.

12. Claims 2-3, 59-62, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasenour et al.

Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose the desired coating thickness. However, the coating as taught by Hasenour et al. clearly has a thickness and discloses applying a coating with coatings and it is the examiners position that coating thickness is a known result effective variable. If the thickness is too high or low it would result in improper coating.

Therefore it would have been obvious to one skill in the art at the time of the invention was made to determine the optimal value for the coating thickness used in the process of Hasenour et al. through routine experimentation, to impart the wood cabinet substrate with the desired properties associated with a coating thickness.

13. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasenour et al in view of US Patent 6231931 by Blazey et al.

Claims 14-16: Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose a coating material comprising a sealer and a topcoat applied in different steps. However, Blazey discloses a process for coating a three-dimensional substrate comprising: supplying a coating of 100% solid materials to the three-dimensional substrate, and applying the coating material to the substrate to provide a uniform thin film coating of said coated material on the substrate (column 2 lines 8-23, 28-40, 49-59). Blazey discloses applying a UV curable polymer sealer to the wood substrate, which provides protection from moisture and prevents undesired warping and degradation of the substrate (Column 2, lines 15-50). Blazey discloses applying a UV curable topcoat onto the sealer, which provides durability and aids in light refraction to make the surface aesthetically pleasing.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Hasenour et al. to use the sealer and topcoat as suggested by Blazey with a reasonable expectation of success to provide a desirable coating for a wood cabinet substrate to reap the benefits of a cabinet coating which prevents warpage and/or degradation while also providing an aesthetically pleasing surface.

Claim 17: Hasenour et al. discloses all the limitations of these claims as discussed above, however, the reference fails to explicitly disclose a sanding or scuffing

the substrate. However, Blazey discloses a method for spraying a UV curable polymer on a substrate discloses a step of scuffing promotes adhesion of the polymer coating to the sub substrate (Column 3, lines 28-31). Therefore it would have been obvious to one of ordinary skill in the art to modify Hasenour et al. to provide scuffing or sanding of the substrate prior to coating as suggested by Blazey with a reasonable expectation of success to reap the benefits of better adhesion between the coating and substrate.

14. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds (US Patent No. 5,478,014).

Referring to claims 23 and 24, Nielsen in view of Hasenour et al. or visa versa discloses using a spray coating method to apply a coating of 100% solids materials as discussed above however fails to disclose providing pressurized air. However, Hynds teaches that when using a spray system for high solid content spray streams (column 4, lines 1-15). Hynds also teaches it is beneficial to heat the air stream in order to quicken the drying time and atomize the material (column 1 lines 7-13). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa to heat the air stream in order to dissolve the solvent (which may be present in 100% solids materials page 4 specification) and help atomize the material as suggested by Hynds to reap the benefits of a more faster drying coating.

Regarding Claim 25: Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds do not give the temperature of the heated gas in a range between 80 and 160 °F. However, Nielsen teaches that when applying a coating of high solids content material it is desirable to have the temperature at 140 °F. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa and further in view of Hynds heat, the gas to a temperature of 140 °F as suggested by Nielsen with a reasonable expectation of successfully coating the material onto a substrate.

Referring to claims 26 and 27, the heat is supplied from as external source that is a component of the spray gun (column 6 lines 37-50).

15. Claims 29-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa as applied above in the 35 USC 103(a) rejection and further in view of Myers et al. (US Patent No. 5,290,598).

Referring to claim 29-31, Nielsen discloses all of the features of claim 29 but does not disclose measuring the temperature in regular intervals or adjusting the temperature of the input streams to maintain the discharge temperature between 80 and 160 °F. However, Myers et al. teaches that when spray coating high solids materials onto wooden substrates it is desirable to control the temperature of the spray, if the temperature of the spray is too hot the coating will sag and if it is too cool the material will not vaporize properly the proper temperature should be between 65 and 150 °F

(column 5 lines 18-29). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor the temperature of the spray at regular intervals and to adjust the temperature of the input streams to ensure a temperature of between 65 and 150 °F is maintained as suggested by Myers et al. with an expectation of forming a high quality coating that doesn't sag and that was formed by a well atomized spray.

16. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nielsen in view of Hasenour et al. or visa versa as applied above in the 35 USC 103(a) rejection and further in view of Cueller et al. (US Patent No. 5,669,974).

Referring to claim 37, Nielsen discloses all of the features of the claim except it does not disclose heating the substrate prior to applying the coating. However, Cueller et al. teaches that heating the substrate to 110-145 °F prior to applying the coating helps prevent crinkling if the pad is too hot and or dripping if the pad is too cool (column 7 lines 8-44). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen to include heating the substrate as suggested by Cueller et al. with an expectation of preventing crinkling and dripping of the coating.

17. Claims 36 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable

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over Nielsen in view of Hasenour et al. or visa versa and Cueller et al. as applied to claim 37 above, and further in view of Fannon (US Patent Application Publication 2002/0033134).

Referring to claim 38, Nielsen in view of Hasenour et al. or visa versa and Cueller et al. teaches all the features of claim 38 except they do not teach to heat the substrate with infrared heaters. However, Fannon teaches that applying infrared heat to the substrate helps increase the efficiency of the processing coatings on wooden substrates (paragraphs 1 and 12). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nielsen in view of Hasenour et al. or visa versa and Cueller et al. to include infrared heating of the substrate as suggested by Fannon with an expectation of increasing the efficiency of the processing coating.

Referring to claim 36, since it is desirable to heat the substrate and the spray to a temperature of approximately 140 °F as discussed above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the chamber to approximately the same temperature to prevent either the substrate or the spray from cooling down prior to or during the coating process. The disadvantages of having the substrate and the spray temperatures deviate from the desired values have been expressed above and it would be obvious to heat the chamber to the desired temperature to remove any temperature gradient driving force that could possibly result in poor coating of the material onto the substrate.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David Turocy
AU 1762


TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER